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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/805,341	03/22/2004	Hiroaki Tsutsui	119174	8999

25944 7590 11/08/2006

OLIFF & BERRIDGE, PLC
P.O. BOX 19928
ALEXANDRIA, VA 22320

EXAMINER

KUGEL, TIMOTHY J

ART UNIT	PAPER NUMBER
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1712

DATE MAILED: 11/08/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No. 10/805,341	Applicant(s) TSUTSUI ET AL.	
	Examiner Timothy J. Kugel	Art Unit 1712	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 22 September 2006.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1, 2 and 4-16 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1, 2 and 4-16 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 22 March 2004 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

1. Claims 1, 2 and 4-16 are pending as amended on 22 September 2006.
2. The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.

Response to Amendment

3. Applicant's amendment, filed 22 September 2006, with respect to the correction of minor informalities and Trademarks has been fully considered and overcomes the following:

The objection to the specification has been withdrawn.

4. Applicant's amendment, filed 22 September 2006, with respect to replacing the word 'using' with 'comprising' in independent claim 12 has been fully considered and overcomes the following:

The rejection of claim 12 is rejected 35 U.S.C. 101 because the claimed recitation of a use, without setting forth any steps involved in the process, results in an improper definition of a process, i.e., results in a claim which is not a proper process claim under 35 U.S.C. 101 has been withdrawn.

The rejection of claim 12 under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention has been withdrawn.

5. Applicant's amendment, filed 22 September 2006, with respect to requiring the crosslinked structure in independent claim 1 to be in the form of particles has been fully considered and overcomes the following:

The rejection of claims 1, 2 and 4-9 under 35 U.S.C. 102(b) as being anticipated by Hiroki Katono et al., Thermo-responsive Swelling and Drug Release Switching of Poly(acrylamide-co-butyl methacrylate) and Poly(acrylic acid), *Journal of Controlled Release*, 16, 1991, 215-217, (Katono hereinafter) has been withdrawn.

The rejection of claims 1, 2, 4 and 6-10 under 35 U.S.C. 102(b) as anticipated by or, in the alternative, under 35 U.S.C. 103(a) as obvious over US Patent 4,891,119 (Ogawa hereinafter) has been withdrawn.

6. Applicant's amendment, filed 22 September 2006, with respect to requiring the at least one other polymer to be at least partially soluble in independent claims 1, 12 and 13 has been fully considered and overcomes the following:

The rejection of claims 1, 2 and 4-13 under 35 U.S.C. 102(e) as being anticipated by US Patent Application Publication 2004/0121017 (Ishii hereinafter) has been withdrawn.

The rejection of claims 1, 2 and 4-9 and 11-13 under 35 U.S.C. 102(b) as being anticipated by US Patent 6,287,485 (Akashi hereinafter) has been withdrawn.

The rejection of claims 1, 2 and 4-9 under 35 U.S.C. 102(b) as being anticipated by Franck Ilmain et al.; Volume Transition in a Gel Driven by Hydrogen Bonding; *Nature*; Jan 31, 1991; 349; 6308 (Ilmain hereinafter) has been withdrawn.

Claim Rejections - 35 USC § 103

7. Claims 1, 2 and 4-16 are rejected under 35 U.S.C. 103(a) as being unpatentable over Ishii in view of Ogawa.

Ishii teaches an optical device (Abstract, ¶0101) comprising a polymer gel composition sealed between two substrates (¶0101), wherein the polymer gel composition comprises a liquid (¶0003) and particles of a polymer gel (¶0073) comprising an interpenetrating network (IPN) of two polymers—including those produced from (meth)acrylamide monomers—at least one of which is partially neutralized, crosslinked and has a carboxylic group—further comprising another resin in which the polymer gel is dispersed and a light modulating material (¶¶0010-0050) and wherein the polymer gel composition exhibits a reversible phase transition in response to heat (¶0001) between 10°C and 80°C (Examples 1-7 ¶¶0122-0158).

Ishii does not disclose expressly the other polymer being soluble in the liquid.

Ogawa discloses a polyacrylamide gel comprising acrylamide, N-methylacrylamide, and N,N-dimethylacrylamide independently and in combination (Abstract, Column 1 Lines 7-11 and Column 2 Lines 63-68), crosslinked with N,N'-methylenebisacrylamide as exemplified by applicant (Column 3 Lines 4-25), in an

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aqueous medium wherein the water-soluble polymer is dispersed within the three dimensional crosslinked polymer structure (Column 4 Lines 48-60).

At the time of the invention, it would have been obvious to a person of ordinary skill in the art to use the water-soluble polymer of Ogawa in the optical device of Ishii. The motivation to do so would have been impart elasticity to the medium even when dried to the point wherein the medium becomes hardly breakable (Ogawa Column 4 Lines 3-11).

The applied reference Ishii has a common assignee and at least one common inventor with the instant application. Based upon the earlier effective U.S. filing date of the reference, it constitutes prior art under 35 U.S.C. 102(e). This rejection under 35 U.S.C. 102(e) might be overcome either by a showing under 37 CFR 1.132 that any invention disclosed but not claimed in the reference was derived from the inventor of this application and is thus not the invention "by another," or by an appropriate showing under 37 CFR 1.131.

Applicant cannot rely upon the foreign priority papers to overcome this rejection because a translation of said papers has not been made of record in accordance with 37 CFR 1.55. See MPEP § 201.15.

8. Claims 1-9 and 11-16 are rejected under 35 U.S.C. 103(a) as being unpatentable over Akashi in view of Ogawa.

Akashi teaches an optical device comprised of a cell prepared from a pair of substrates sealed with a spacer (Column 3 Line 64 – Column 4 Line 14) containing

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particles (Column 8 Lines 7-22) of a polymer gel capable of reversible swelling-contracting by absorbing-desorbing a liquid when a stimulus—such as the application of heat at between 20°C and 50°C (Examples 3-6 Column 15 Line 39 – Column 19 Line 7)—is given (Column 3 Line 64 – Column 4 Line 14 and Column 4 Lines 56-66) comprising a crosslinked and/or interpenetrating network of polymers of (meth)acrylamide and meth(acrylic acid) (Column 5 Line 52 – Column 7 Line 28), a swelling liquid (Column 10 Lines 52-67 and Column 15 Lines 13-20) and a light-modulating material (Column 8 Lines 7-22).

Akashi does not disclose expressly the other polymer being soluble in the liquid.

Ogawa discloses a polyacrylamide gel comprising acrylamide, N-methylacrylamide, and N,N-dimethylacrylamide independently and in combination (Abstract, Column 1 Lines 7-11 and Column 2 Lines 63-68), crosslinked with N,N'-methylenebisacrylamide as exemplified by applicant (Column 3 Lines 4-25), in an aqueous medium wherein the water-soluble polymer is dispersed within the three dimensional crosslinked polymer structure (Column 4 Lines 48-60).

At the time of the invention, it would have been obvious to a person of ordinary skill in the art to use the water-soluble polymer of Ogawa in the optical device of Akashi. The motivation to do so would have been impart elasticity to the medium even when dried to the point wherein the medium becomes hardly breakable (Ogawa Column 4 Lines 3-11).

9. Claims 1, 2, 4-9 and 14 are rejected under 35 U.S.C. 103(a) as being unpatentable over Ilmain in view of Ogawa.

Ilmain teaches a polymer gel composition comprising a liquid—water—and particles of a polymer gel comprised of crosslinked partially ionized poly(acrylic acid) interpolymerized within a crosslinked poly(acrylamide) gel wherein the composition shows a reversible phase transition between 10°C and 50°C (Page 1 ¶¶1-4, Fig. 1).

Ilmain does not disclose expressly the other polymer being soluble in the liquid.

Ogawa discloses a polyacrylamide gel comprising acrylamide, N-methylacrylamide, and N,N-dimethylacrylamide independently and in combination (Abstract, Column 1 Lines 7-11 and Column 2 Lines 63-68), crosslinked with N,N'-methylenebisacrylamide as exemplified by applicant (Column 3 Lines 4-25), in an aqueous medium wherein the water-soluble polymer is dispersed within the three dimensional crosslinked polymer structure (Column 4 Lines 48-60).

At the time of the invention, it would have been obvious to a person of ordinary skill in the art to use the water-soluble polymer of Ogawa in the composition of Ilmain. The motivation to do so would have been impart elasticity to the medium even when dried to the point wherein the medium becomes hardly breakable (Ogawa Column 4 Lines 3-11).

Response to Arguments

10. Applicant's arguments filed 22 September 2006 have been considered but are moot in view of the new grounds of rejection.

Conclusion

11. Applicant's amendment necessitated the new grounds of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

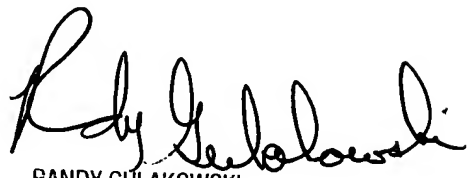
A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

12. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Timothy J. Kugel whose telephone number is (571) 272-1460. The examiner can normally be reached 6:00 AM – 4:30 PM Monday-Thursday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Randy Gulakowski can be reached on (571) 272-1302. The fax phone number for the organization where this application or proceeding is assigned is (571) 273-8300.

13. Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

TJK
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RANDY GULAKOWSKI
SUPERVISORY PATENT EXAMINER
TECHNOLOGY CENTER 1700